

INSIGHTS INTO THE GENERAL CIRCULATION OF THE LOWER
STRATOSPHERE FROM TOMS

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Total ozone is controlled by dynamical advection as well as chemistry. At least for day-to-day variations, dynamical processes appear to be in control of total ozone. There also appears to be good evidence that seasonal and secular changes in total ozone are also dynamically controlled. For example, the zonal mean changes in total ozone in the two hemispheres in spring appear to be quite different. The TOMS total ozone data suggest a south polar spring upwelling while the Northern Hemisphere shows a clear downwelling in the same period. Radiative transfer computations support this conclusion. The secular changes in total ozone over the South Pole in spring indicate a change in dynamics rather than chemistry.